

**REMARKS-General**

The newly drafted independent claims 21 and 29 incorporate all structural limitations of the original claims 1 and 11 and include further limitations previously brought forth in the disclosure. No new matter has been included. All new claims 21-36 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

**Response to Rejection of Claims 1-20 under 35USC103**

The Examiner rejected claims 1-10 over Wey (US 20050061157 A1) in view of Mager (US 6,790,273) and further in view of Watanabe (US 6,296,943) and Andrews (US 20050171253 A1), and claims 11-20 over Watanabe (US 6,296,943) in view of Wey (US 20050061157 A1) and Mager (US 6,790,273) and further in view of Andrews (US 20050171253 A1).

Pursuant to 35 U.S.C. 103: “(a) A patent may not be obtained thought the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”

In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)~(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

In other words, the differences between the subject matter sought to be patent as a whole of the instant invention, Wey and Watanabe which are qualified as prior art of the instant invention under 35USC102(b) are obvious in view of Mager and/or Andrews, at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

The applicant respectfully submits that in order to determine whether the differences between the subject matters sought to be patent as a whole of the instant invention and the primary prior arts, Wey and Watanabe, are obvious in view of the supplemental cited arts, Mager and/or Andrews, we have to identify all the differences between the claims of the instant inventions and Wey and Watanabe. The applicant respectfully identifies the differences between the claims of the instant invention and Wey and Watanabe as follows:

(a) In claim 21, “a liquid container comprising a plastic made container body and a plastic made container cap” is claimed, wherein Wey merely teaches a sticker attached to a water bottle without any suggestion of what kinds of material can be used for the water bottle. In addition, the only sentence is the only description in Wey regarding to water bottle. It is apparent that Wey fails to teach and anticipate the same recitation and limitation in the claim 1 of the instant invention of using the plastic made liquid container.

(b) In claim 21, “a protective arrangement **integrally provided** on the liquid container” is claimed, wherein Wey merely teaches a beverage energizing sticker adapted to self-adhere on the beverage serving means that fails to teach the integral attachment on the liquid container. Accordingly, Wey teaches the sticker comprises a self-adhesive layer to be glued on the coffee mug, water bottle, a pitcher or a wine decanter. The applicant respectfully submits that the protective arrangement is integrally provided on the liquid container such that the exterior surface forms a germ barrier for keeping the liquid in the liquid container in a germ-free manner. Therefore, no adhesive is used in the instant invention to integrally provide the protective arrangement on the liquid container. In other words, the sticker taught by Wey is not integrated with the water bottle.

(c) In claim 21, “a **nano** titanium oxide integrally formed on the liquid container” is claimed for blocking ultra-violet light entering into the liquid chamber of the liquid container, wherein Wey does not teach any nano titanium oxide integrally formed on the liquid container. Wey merely teaches the far infrared ray emitting particles consisting of titanium oxide disposed on the pliable sheet by deposition or sputtering.

(d) In claim 21, “ceramic powders mixing with the nano titanium oxide” is claimed to integrally provide at the liquid container, wherein Wey fails to teach any

mixture of ceramic powders and nano titanium oxide to integrally apply on the liquid container.

(e) In claim 21, “the **exterior surface** of the liquid container forms a germ barrier” is claimed for keeping the liquid in the liquid container in a germ-free manner, wherein Wey merely teaches the beverage energizing sticker attached to the beverage serving means to energize the beverage.

(f) Wey does not teach “the far infrared ray emitter is mixed with the nano titanium oxide to form an anti-germ solution integrally coated on the exterior surfaces of the container body and the container cap” as claimed in claim 22 in addition to what is claimed in claim 21 as a whole. Wey merely teaches the sticker glued on the beverage serving means. The Examiner alleges that “the sticker acts as a coating that may be attached to the exterior surface of the bottle”. The applicant respectfully submits that “integral” means having two elements combined to form a one-piece structure. A sticker would not be considered as a coating that the sticker must requires some kinds of adhesive to attach on the surface of the bottle and cannot be integrated with the bottle.

(g) Wey itself does teach the concept of “integrally mixing the protective arrangement with the raw plastic material” to integrally form the container body as claimed in claim 23 in addition to what is claimed in claim 21 as a whole.

(h) Wey does not teach “the far infrared ray emitter is in 1:10,000 weight ratio with the raw material of said liquid container and the nano titanium oxides is in 1:10,000 weight ratio with the raw plastic material of the liquid container” as claimed in claim 24 in addition to what is claimed in claim 21 as a whole.

(i) Wey does not teach “the far infrared ray emitter and the nano titanium oxide constitutes 5% by weight of the protective arrangement and water constitutes 95% by weight of the protective arrangement” as claimed in claims 25 to 28 in addition to what is claimed in claim 21 as a whole.

(j) Watanabe does not teach the step of “providing a liquid container comprising a plastic made container body and a plastic made container cap” as claimed in claim 29.

(k) Watanabe fails to teach the step of “mixing the ceramic powders of far infrared ray emitter with a nano titanium oxide to form an anti-germ solution” as claimed

in claim 29, wherein Watanabe merely discloses a composite sols consisting of titanium oxide without any mention of any mixture of ceramic powders and nano titanium oxide.

(l) Watanabe does not disclose ceramic powders are one of the components of the coating film. Watanabe merely teaches the composite sols can be used for applications such as a surface treating agent for glass or ceramics. It is apparent that the composite sols of Watanabe does not consisting of ceramic powders mixed with the nano titanium oxide.

(m) Watanabe does not teach "the anti-germ solution is integrally applied at the liquid container, such that the exterior surface of the liquid container forms a germ barrier for keeping the liquid in the liquid container in a germ-free manner" as claimed in claim 29. Watanabe merely teach the titanium oxide is coated on the optical lens made of glass or plastic, which is a totally different concept of the instant invention to keep the liquid in a germ-free manner.

(n) Watanabe does not teach "the anti-germ solution is integrally coated on the exterior surfaces of the container body and the container cap" as claimed in claim 30 in addition to what is claimed in claim 29 as a whole.

(o) Watanabe never mention any "anti-germ solution is integrally mixed with a raw plastic material to integrally form the container body and the container cap of the liquid container" as claimed in claim 31 in addition to what is claimed in claim 29 as a whole.

(p) Watanabe does not teach "the far infrared ray emitter is in 1:10,000 weight ratio with the raw material of said liquid container and the nano titanium oxides is in 1:10,000 weight ratio with the raw plastic material of the liquid container" as claimed in claim 32 in addition to what is claimed in claim 29 as a whole.

(q) Watanabe fails to teach "the far infrared ray emitter and the nano titanium oxide constitutes 5% by weight of the protective arrangement and water constitutes 95% by weight of the protective arrangement" as claimed in claims 33 to 36 in addition to what is claimed in claim 29 as a whole. Watanabe merely teaches "the total concentration of titanium-tin in the aqueous titanium-tin basic salt solution in terms of  $(\text{TiO}_{2.2} + \text{SnO}_{2.2})$  is preferably 5 to 50% by weight" and "a total concentration below 5% by weight is possible". It is apparent that Watanabe fails to teach the ratio of

the protective arrangement of the instant invention since the protective arrangement comprises ceramic powders and nano titanium oxide to form the 5% by weight solution while Watanabe never contains any ceramic powder.

Whether the claims 21 to 36 as amended of the instant invention are obvious depends on whether the above differences (a) to (q) between the instant invention, Wey and Watanabe are obvious in view of Mager and/or Andrews at the time of the invention was made.

Furthermore, the applicant respectfully submits that when applying 35 USC 103, the following tenets of patent law must be adhered to:

- (a) The claimed invention must be considered as a whole;
- (b) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (c) The references must be viewed without the benefit of hindsight vision afforded by the claimed invention; and
- (d) Reasonable expectation of success is the standard with which obviousness is determined.

Also, "The mere fact that a reference could be modified to produce the patented invention would not make the modification obvious unless it is suggested by the prior art." Libbey-Owens-Ford v. BOC Group, 4 USPQ 2d 1097, 1103 (DCNJ 1987).

Mager merely teaches, in column 2, lines 51-58, a nano cerium oxide can be cured to give transparent coatings" without any mention of any integrating the nano cerium oxide with the substrate. In addition, Mager merely teaches, in column 1, lines 35-36, titanium oxide is one of the inorganic UV absorbers. However, Mager never mention the titanium oxide can be used as the cerium oxide as it is disclosed in the specification to have the same physical properties of the cerium oxide. Also, it is apparent that cerium oxide is the main objective and achievement of Mager since Mager specifically emphasizes the composition of cerium oxide. Therefore, there is no suggestion in Mager of how to mix the ceramic powders with the cerium oxide to integrally provide at the liquid container to keep the liquid therein in a germ-free manner.

Andrews merely suggests the contents of clear or lightly colored plastic containers or film are protected from ultraviolet radiation by the incorporation of certain UV absorbers of class of reactable, durable hydroxyphenylbenzotriazoles in the container or film. Similarly, neither Wey, Watanabe nor Andrews suggests an arrangement and process of providing the liquid container with a protective arrangement containing the above distinctive features (a) to (q) as claimed in the instant invention as well as any combination or possibility of providing a mixture of ceramic powders and the nano titanium oxide to integrally provide at the liquid container that the exterior surface of the liquid container forms a germ barrier to keep the liquid in the liquid container in a germ free manner.

“To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited art references for combination in the manner claimed... [T]he suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness...” *In re Gorman*, 933 F.2d 982, 986, 18 USPQ 2d 1885, 1888 (Fed. Cir. 1991).

Accordingly, the applicant believes that neither Wey, Watanabe, Mager nor Andrews, separately or in combination, suggests or makes any mention whatsoever of the difference subject features (a) to (q) as claimed in the claims 21 to 36 of the instant invention.

Applicant believes that for all of the foregoing reasons, all of the claims are in condition for allowance and such action is respectfully requested.

### **The Cited but Non-Applied References**

The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection are requested. Allowance of claims 21-36 at an early date is solicited.



Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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#### CERTIFICATE OF MAILING

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